

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks. Claims 1-26 remain pending in the present application, of which, Claims 1, 12, 21, and 24 are independent claims.

The rejections set forth in the prior Official Action have been withdrawn in the present Official Action. However, the present Official Action sets forth a new ground of rejection with respect to Claims 12, 15, and 24. The new ground of rejection is based upon the disclosure contained in “Using Distance Maps for Accurate Surface Representation in Sampled Volumes” by Gibson. This new ground of rejection is respectfully traversed for at least the reasons set forth below.

Allowable Subject Matter

The Applicants note with appreciation the indication that Claims 1-11 and 21-23 are allowed over the prior art of record. It is also noted that Claims 13, 14, 16-20, 25, and 26 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

At this time, the Applicants believe that all of pending claims are allowable over the prior art of record and thus have opted to not amend these claims into independent form. Applicants, however, reserve the right to amend these claims in the future.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed

combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Claims 12 and 15 have been rejected under 35 U.S.C. §102(b) as allegedly being anticipated by the disclosure contained in the article titled “Using Distance Maps for Accurate Surface Representation in Sampled Volumes” by Gibson (hereinafter “Gibson”). This rejection is traversed because it is respectfully submitted that Claims 12 and 15 are patentably distinguishable over the disclosure contained in Gibson for at least the following reasons.

The Official Action asserts that Gibson discloses all of the elements set forth in Claim 12 of the present invention. More particularly, the Official Action alleges that in the first paragraph of section 3, Gibson discloses the step of “computing a distance map of a source image”. The Official Action also alleges that in the third paragraph of section 3 and the first paragraph of section 4, Gibson discloses the step of “downsampling the first distance map having a first resolution to form a second distance map having a second resolution”. It is respectfully submitted that the Official Action has mischaracterized the disclosure contained in Gibson and that Gibson fails to anticipate the present invention as claimed in Claim 12.

The first paragraph of section 3 in Gibson provides an overview of what is required to create a distance map for various types of objects. For instance, Gibson states that a model of the object surface is required to create a distance map. Gibson also discusses various situations in which the object surfaces are either known or must be estimated. In any regard, although Gibson discusses how to create a distance map, Gibson does not actually state that a distance map is computed in this paragraph.

The third paragraph of section 3 in Gibson states “sampled distance maps were generated **from the original object representation...**” (emphasis added). The Official Action asserts that the “‘sampled distance maps’ implies that the distance map was sampled”. In addition, the Official Action asserts that the first paragraph of section 4, including footnote 2, can somehow be relied upon to disclose “wherein the ‘low resolution distance map’ as the result of sampling implies a second resolution, which is a lower resolution resulting from downsampling”. Although there is no doubt that Gibson discloses “sampled distance maps”, it is respectfully submitted that the rejection based upon the interpretation of Gibson set forth in the Official Action is clearly improper.

Initially, there is absolutely no disclosure in the third paragraph of section 3 in Gibson to indicate that a first distance map having a first resolution is downsampled to form a second distance map having a second resolution as set forth in Claim 12. Instead, as shown above in bold-face, sampled distance maps in Gibson are generated from the **original object representation** and not from other distance maps. In addition, Gibson does not indicate that the original object representation discussed in section 3 is a distance map. Instead, the original object representation is, in most likelihood, the model of the object surface described in the first paragraph of section 3. This interpretation of the original object representation is

based upon the statement in that first paragraph that a model of the object surface is required to create a distance map.

Moreover, there is no disclosure in the first paragraph of section 4, nor footnote 2, of Gibson to indicate that any of the sampled distance maps are downsampled. In fact, this term and equivalents thereof are never mentioned in those cited passages of Gibson. Instead, those passages in Gibson refer to the reconstruction of a linear 3D field from a low resolution distance map. In considering this passage with the third paragraph in section 3, it is clear that the low resolution distance map referred to here pertains to a low resolution distance map generated from the original object representation and **not** from another distance map. Therefore, Gibson does not disclose that a first distance map having a first resolution is downsampled to form a second distance map having a second resolution.

For at least the foregoing reasons, it is respectfully submitted that the Official Action has misinterpreted the disclosure contained in Gibson and that Gibson fails to disclose each and every element claimed in Claim 12. Consequently, Gibson cannot anticipate the claimed invention as set forth in Claim 12 and Claim 12 is considered to be allowable over the disclosure contained in Gibson. The Examiner is thus respectfully requested to withdraw the rejection of Claim 12 as being anticipated by the disclosure contained in Gibson.

Claim 15 is also allowable over the disclosure contained in Gibson at least by virtue of its dependency upon allowable Claim 12.

Claim Rejection Under 35 U.S.C. §103

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

The Official Action sets forth a rejection of Claim 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over the disclosure contained in the article titled “Using Distance Maps for Accurate Surface Representation in Sampled Volumes” by Gibson (hereinafter “Gibson”). This rejection is respectfully traversed because Gibson fails to disclose the claimed invention as set forth in Claim 24.

The Official Action asserts that Claim 24 is rejected for the same reasons as Claim 12. Gibson fails to disclose all of the elements of Claim 12 as discussed above. Therefore, Gibson fails to disclose all of the elements of Claim 24. More particularly, for instance, Gibson does not disclose that a first distance map having a first resolution is downsampled to form a second distance map having a second resolution, as set forth in Claim 24.

For at least this reason, Claim 24 of the present invention is patentably distinguishable and allowable over the disclosure contained in Gibson. The Examiner is thus respectfully requested to withdraw the rejection of Claim 24.

PATENT

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Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

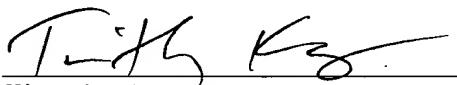
Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

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By



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